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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/789,123	02/27/2004	Alexander Keller	YOR920030547US1 (590.125)	7598
35195	7590	11/28/2006	EXAMINER CHEN, QING	
FERENCE & ASSOCIATES 409 BROAD STREET PITTSBURGH, PA 15143			ART UNIT 2191	PAPER NUMBER

DATE MAILED: 11/28/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/789,123

Applicant(s)

KELLER ET AL.

Examiner

Qing Chen

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 27 February 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-41 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-41 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 27 February 2004 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date 20040227.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: _____.

DETAILED ACTION

1. This is the initial Office action based on the application filed on February 27, 2004.
2. **Claims 1-41** are pending.

Drawings

3. The drawings are objected to as failing to comply with 37 CFR 1.84(p)(5) because they include the following reference character(s) not mentioned in the description:

- Reference number 130 in Figure 1.

Corrected drawing sheets in compliance with 37 CFR 1.121(d), or amendment to the specification to add the reference character(s) in the description in compliance with 37 CFR 1.121(b) are required in reply to the Office action to avoid abandonment of the application.

Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as "amended." If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not

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accepted by the Examiner, the Applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

Specification

4. The disclosure is objected to because of the following informalities:

- The specification contains the following typographical errors:
 - The attorney docket numbers for the U.S. Patent Applications incorporated by reference should be deleted in pages 8 and 12. Also, the reference to “attorney docket number” should be deleted in page 8, line 13.
 - The terminology “http” should be changed to uppercase in page 17, line 16.
 - The second right parentheses after the reference number 110 should be deleted in page 17, line 16.
 - The second occurrence of reference number 420 should be changed to 425 in page 25, line 6.
 - The phrase “... includes an for determining ...” should presumably read “... includes an argument for determining ...” in page 34, line 7.
- The U.S. Patent Applications that are incorporated by reference should also be identified by their corresponding application numbers. See 37 CFR § 1.57(b)(2).
Appropriate correction is required.

5. The use of trademarks, such as IBM, AIX, LINUX, RED HAT, RPM, MICROSOFT, WINDOWS, WEBSPHERE, and DB2, has been noted in this application. Trademarks should be

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capitalized wherever they appear (capitalize each letter OR accompany each trademark with an appropriate designation symbol, e.g., TM or ®) and be accompanied by the generic terminology (use trademarks as adjectives modifying a descriptive noun, e.g., “the WINDOWS operating system”).

Although the use of trademarks is permissible in patent applications, the proprietary nature of the marks should be respected and every effort made to prevent their use in any manner, which might adversely affect their validity as trademarks.

Claim Objections

6. **Claims 1-41** are objected to because of the following informalities:

- **Claims 1, 5, 21, 25, and 41** recite the limitation “the system.” The Examiner subsequently interprets this limitation as reading “the distributed system” for the purpose of providing it with proper explicit antecedent basis.
- **Claims 2-4 and 6-20** depend on Claim 1 and, therefore, suffer the same deficiency as Claim 1.
- **Claims 22-24 and 26-40** depend on Claim 21 and, therefore, suffer the same deficiency as Claim 21.
- **Claims 4 and 24** recite the limitation “the request.” The Examiner subsequently interprets this limitation as reading “the incoming request” for the purpose of providing it with proper explicit antecedent basis.
- **Claims 5 and 10** depend on Claim 4 and, therefore, suffer the same deficiency as Claim 4.

- **Claims 25 and 30** depend on Claim 24 and, therefore, suffer the same deficiency as Claim 24.
 - **Claims 7, 8, 27, and 28** recite the limitation “the changes.” The Examiner subsequently interprets this limitation as reading “the order of changes” for the purpose of providing it with proper explicit antecedent basis.
 - **Claim 16** contains a typographical error: the phrase “the steps of” should be deleted in order to keep the claim language consistent.
- Appropriate correction is required.

Claim Rejections - 35 USC § 112

7. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

8. **Claims 10, 20, 30, and 40** are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claims 10 and 30 recite the limitation “the total change time.” There is insufficient antecedent basis for this limitation in the claims. In the interest of compact prosecution, the Examiner subsequently interprets this limitation as reading “a total change time” for the purpose of further examination.

Claims 20 and 40 recite the limitation “the computing environment.” There is insufficient antecedent basis for this limitation in the claims. In the interest of compact prosecution, the Examiner subsequently interprets this limitation as reading “a computing environment” for the purpose of further examination.

Claim Rejections - 35 USC § 101

9. 35 U.S.C. 101 reads as follows:

Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

10. **Claims 21-40** are rejected under 35 U.S.C. 101 because the claimed invention is directed to non-statutory subject matter.

Claims 21-40 are directed to systems. However, the structural components of the systems for performing the recited functionalities can be reasonably interpreted as computer software modules—software *per se*, since the specification discloses that the invention may be implemented in software (*see Specification – Page 34*). Therefore, the claims are directed to systems of functional descriptive material *per se*, and hence non-statutory. The claims constitute computer programs representing computer listings *per se*. Such descriptions or expressions of the programs are not physical “things.” They are neither computer components nor statutory processes, as they are not “acts” being performed. Such claimed computer programs do not define any structural and functional interrelationships between the computer program and other claimed elements of a computer, which permit the computer program’s functionality to be

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realized. In contrast, a claimed computer-readable medium encoded with a computer program is a computer element, which defines structural and functional interrelationships between the computer program and the rest of the computer, that permits the computer program's functionality to be realized, and is thus statutory. See *Lowry*, 32 F.3d at 1583-84, 32 USPQ2d at 1035.

Claim Rejections - 35 USC § 102

11. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

12. **Claims 1, 2, 4-8, 11, 16-22, 24-28, 31, and 36-41** are rejected under 35 U.S.C. 102(b) as being anticipated by Taylor (US 5,721,824).

As per **Claim 1**, Taylor discloses:

- determining existing relationship descriptions between components of the distributed system (*see Column 4: 52-59, "A primary package may have secondary packages on which it is dependent. A primary package may also be dependent from another primary package. Thus a primary package may be primary in one installation and secondary in another installation."*);
- transforming acquired relationships into ordered tasks that are linked by temporal ordering constraints (*see Column 5: 3-11, "Installation dependency list 101 in FIG. 2A is*

exemplary of an distribution pack having multiple packages with dependencies. Package A and Package C are primary packages. Package C is also a secondary package in Package A's dependency list. Packages B and D are secondary packages in Package C's dependency list."");
and

- creating an order of changes taking into account task relationship constraints (see Column 5: 26-29, "An action list is a list of those dependent packages that will be subsequently installed by a trailer script after the present package (primary Package A in the example) is installed.").

As per **Claim 2**, the rejection of **Claim 1** is incorporated; and Taylor further discloses:

- wherein the order of changes is sequential (see Column 6: 34-42, "During the first pass through the loop Package B is added to the action list, and during the second pass through the loop Package D is added to the action list. The action list now lists Packages C, B and D.").

As per **Claim 4**, the rejection of **Claim 1** is incorporated; and Taylor further discloses:

- refining an incoming request for change by breaking the incoming request down into sub-requests (see Figure 2A: 101; Column 5: 3-11, "Installation dependency list 101 in FIG. 2A is exemplary of an distribution pack having multiple packages with dependencies. Package A and Package C are primary packages. Package C is also a secondary package in Package A's dependency list. Packages B and D are secondary packages in Package C's dependency list.").

As per **Claim 5**, the rejection of **Claim 4** is incorporated; and Taylor further discloses:

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- computing an allowable order of changes by interacting with the distributed system
(see Column 6: 34-42, "During the first pass through the loop Package B is added to the action list, and during the second pass through the loop Package D is added to the action list. The action list now lists Packages C, B and D. ").

As per **Claim 6**, the rejection of **Claim 1** is incorporated; and Taylor further discloses:

- wherein creating the order of changes includes determining whether the ordered changes are conflicting and flagging such conflicts *(see Figure 2A: 101; Column 4: 55-59, "Thus a primary package may be primary in one installation and secondary in another installation."; Column 5: 17-21, "After operation 104 at the server has read the dependency list for Package A, operation 106 gets the first entry off Package A's dependency list which is secondary Package C on which Package A depends. Decision operation 108 tests whether the dependent Package C has been installed. ").*

As per **Claim 7**, the rejection of **Claim 1** is incorporated; and Taylor further discloses:

- wherein the order of changes are partially ordered *(see Column 6: 34-42, "During the first pass through the loop Package B is added to the action list ... ").*

As per **Claim 8**, the rejection of **Claim 1** is incorporated; and Taylor further discloses:

- wherein the order of changes are totally ordered *(see Column 6: 34-42, "... and during the second pass through the loop Package D is added to the action list. The action list now lists Packages C, B and D. ").*

As per **Claim 11**, the rejection of **Claim 1** is incorporated; and Taylor further discloses:

- wherein the creation of the order of changes further takes into account a requested change management operation (*see Figure 3: 130; Column 6: 52-53, "Operation 130 deletes the Package C entry from the action list. The action list now lists Packages B and D."*).

As per **Claim 16**, the rejection of **Claim 1** is incorporated; and Taylor further discloses:

- accessing and evaluating policy rules representing best practices (*see Figure 3; Column 6: 22-24, "The trailer script module of FIG. 3 begins at decision operation 126 which detects if there is an entry on the action list."*).

As per **Claim 17**, the rejection of **Claim 16** is incorporated; and Taylor further discloses:

- wherein the best practices include updating all affected software artifacts when a software artifact is updated (*see Column 6: 3-7, "Operation 122 installs the primary package; however, the difference now is that, following operation 122 and decision operation 124, the trailer script is executed. This is necessary since there are dependent packages on the action list that must now be installed."*).

As per **Claim 18**, the rejection of **Claim 16** is incorporated; and Taylor further discloses:

- wherein the best practices include having a given set of software components installed on different systems (*see Column 1: 6-9, "This invention relates to installing software*

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products, herein referred to as software packages or packages, on computing systems ... in a distributed processing computing system having a server and multiple clients ...").

As per **Claim 19**, the rejection of **Claim 1** is incorporated; and Taylor further discloses:

- wherein one or more of the order of changes are persistently stored after being created (see Column 5: 29-31, "If there is an action list, add module 112 adds the name of the dependent package to the action list. ").

As per **Claim 20**, the rejection of **Claim 1** is incorporated; and Taylor further discloses:

- wherein a component is one of a service, an application, middleware, hardware, an operating system, a storage system, a network device, and a system associated with a computing environment (see Figure 1: 45; Column 4: 52-53, "The distribution pack handled by this invention has multiple packages to be installed. ").

Claims 21, 22, 24-28, 31, and 36-40 are system claims corresponding to the method claims above (Claims 1, 2, 4-8, 11, and 16-20) and, therefore, are rejected for the same reasons set forth in the rejections of Claims 1, 2, 4-8, 11, and 16-20.

Claim 41 is a device claim corresponding to the method claim above (Claim 1) and, therefore, is rejected for the same reason set forth in the rejection of Claim 1.

Claim Rejections - 35 USC § 103

13. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

14. **Claims 3, 9, 10, 23, 29, and 30** are rejected under 35 U.S.C. 103(a) as being unpatentable over **Taylor** (US 5,721,824) in view of **Cockx et al.** (US 6,952,825).

As per **Claim 3**, the rejection of **Claim 1** is incorporated; however, **Taylor** does not disclose:

- wherein the order of changes is concurrent.

Cockx et al. disclose wherein the order of changes is concurrent (*see Column 12: 40-44, "A scheduler in accordance with the second embodiment is called parallel if it can allow more than one thread to execute simultaneously in real time."*).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to incorporate the teaching of **Cockx et al.** into the teaching of **Taylor** to include wherein the order of changes is concurrent. The modification would be obvious because one of ordinary skill in the art would be motivated to speed up the execution of a model in real time (*see Cockx et al. – Column 12: 42-44*).

As per **Claim 9**, the rejection of **Claim 1** is incorporated; however, Taylor does not disclose:

- wherein the order of changes includes an estimate of the time required to complete a change.

Cockx et al. disclose wherein the order of changes includes an estimate of the time required to complete a change (*see Column 19: 41-44, "... the 'local' time of a thread may include an estimate of the elapsed processing time for that thread when the thread is executed on a processing engine."*).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to incorporate the teaching of Cockx et al. into the teaching of Taylor to include wherein the order of changes includes an estimate of the time required to complete a change. The modification would be obvious because one of ordinary skill in the art would be motivated to reduce non-determinism (*see Cockx et al. – Column 4: 59-60*).

As per **Claim 10**, the rejection of **Claim 4** is incorporated; however, Taylor does not disclose:

- wherein a total change time is minimized by exploiting parallelism between change tasks.

Cockx et al. disclose wherein the total change time is minimized by exploiting parallelism between change tasks (*see Column 12: 40-44, "A scheduler in accordance with the second embodiment is called parallel if it can allow more than one thread to execute*

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simultaneously in real time. A parallel scheduler can exploit multi-processor hardware to speed up the execution of a model in real time.").

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to incorporate the teaching of Cockx et al. into the teaching of Taylor to include wherein the total change time is minimized by exploiting parallelism between change tasks. The modification would be obvious because one of ordinary skill in the art would be motivated to speed up the execution of a model in real time (*see Cockx et al. – Column 12: 42-44).*

Claim 23 is rejected for the same reason set forth in the rejection of Claim 3.

Claim 29 is rejected for the same reason set forth in the rejection of Claim 9.

Claim 30 is rejected for the same reason set forth in the rejection of Claim 10.

15. **Claims 12-15 and 32-35** are rejected under 35 U.S.C. 103(a) as being unpatentable over Taylor (US 5,721,824) in view of O'Toole et al. (US 6,345,294).

As per **Claim 12**, the rejection of **Claim 1** is incorporated; however, Taylor does not disclose:

- wherein a requester identifies one or more target systems within the distributed system by name.

O'Toole et al. disclose wherein a requester identifies one or more target systems within the distributed system by name (*see Column 13: 50-56, "The appliance registry operates a*

secure, coherent, highly available database that stores rarely accessed records about the relationship between SODA appliances and SODA master nodes. The record contains the following information: ... soda-node-name: string ...").

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to incorporate the teaching of O'Toole et al. into the teaching of Taylor to include wherein a requester identifies one or more target systems within the distributed system by name. The modification would be obvious because one of ordinary skill in the art would be motivated to publish material that can be subscribed to securely by these appliances (*see O'Toole et al. – Column 13: 33-37*).

As per **Claim 13**, the rejection of **Claim 12** is incorporated; however, Taylor does not disclose:

- wherein the names of the target systems are unique physical identifiers.

O'Toole et al. disclose wherein the names of the target systems are unique physical identifiers (*see Column 13: 50-56, "The appliance registry operates a secure, coherent, highly available database that stores rarely accessed records about the relationship between SODA appliances and SODA master nodes. The record contains the following information: ... soda-node-id: MAC address and serial number ...").*

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to incorporate the teaching of O'Toole et al. into the teaching of Taylor to include wherein the names of the target systems are unique physical identifiers. The modification

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would be obvious because one of ordinary skill in the art would be motivated to publish material that can be subscribed to securely by these appliances (*see O'Toole et al. – Column 13: 33-37*).

As per **Claim 14**, the rejection of **Claim 12** is incorporated; however, Taylor does not disclose:

- wherein the names of the target systems are logical names which refer to one or more physical systems.

O'Toole et al. disclose wherein the names of the target systems are logical names which refer to one or more physical systems (*see Column 13: 50-56, "The appliance registry operates a secure, coherent, highly available database that stores rarely accessed records about the relationship between SODA appliances and SODA master nodes. The record contains the following information: ... soda-node-name: string ..."*).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to incorporate the teaching of O'Toole et al. into the teaching of Taylor to include wherein the names of the target systems are logical names which refer to one or more physical systems. The modification would be obvious because one of ordinary skill in the art would be motivated to publish material that can be subscribed to securely by these appliances (*see O'Toole et al. – Column 13: 33-37*).

As per **Claim 15**, the rejection of **Claim 1** is incorporated; however, Taylor does not disclose:

- wherein a requester does not identify one or more target systems within the distributed system by name.

O'Toole et al. disclose wherein a requester does not identify one or more target systems within the distributed system by name (*see Column 13: 50-56, "The appliance registry operates a secure, coherent, highly available database that stores rarely accessed records about the relationship between SODA appliances and SODA master nodes. The record contains the following information: ... soda-node-location: string ..."*).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to incorporate the teaching of O'Toole et al. into the teaching of Taylor to include wherein a requester does not identify one or more target systems within the distributed system by name. The modification would be obvious because one of ordinary skill in the art would be motivated to publish material that can be subscribed to securely by these appliances (*see O'Toole et al. – Column 13: 33-37*).

Claim 32 is rejected for the same reason set forth in the rejection of Claim 12.

Claim 33 is rejected for the same reason set forth in the rejection of Claim 13.

Claim 34 is rejected for the same reason set forth in the rejection of Claim 14.

Claim 35 is rejected for the same reason set forth in the rejection of Claim 15.

Conclusion

16. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

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A. **Casotto** (US 5,634,056) discloses a computer implemented method and apparatus for managing the propagation of information among multiple files which are interrelated by various software tools.

B. **Eisenberg et al.** (US 5,890,166) disclose a database management system, which manages multiple versions of data.

C. **D'Souza** (US 6,052,707) discloses scheduling of tasks in data processing systems.

D. **Gerard et al.** (US 6,192,368) disclose modifying objects in an object-oriented system.

E. **Foster** (US 6,675,382) discloses a method and apparatus for packaging and distributing software.

F. **Marino et al.** (US 6,681,391) disclose installation of or upgrades to a group of related programs, such as those in a software suite.

G. **Bourke-Dunphy et al.** (US 6,918,112) disclose a system and method to facilitate installation of components.

H. **Sheehy** (US 2004/0243995) discloses a method of and system for managing installs to a set of one or more field machines in a distributed network environment.

Any inquiry concerning this communication or earlier communications from the Examiner should be directed to Qing Chen whose telephone number is 571-270-1071. The Examiner can normally be reached on Monday through Thursday from 7:30 AM to 4:00 PM. The Examiner can also be reached on alternate Fridays.

If attempts to reach the Examiner by telephone are unsuccessful, the Examiner's supervisor, Wei Zhen, can be reached on 571-272-3708. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the TC 2100 Group receptionist whose telephone number is 571-272-2100.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



WEI ZHEN
SUPERVISORY PATENT EXAMINER

QC / *dc*
November 15, 2006